

WHAT IS CLAIMED IS:

1. A chemical mechanical polishing monitoring system, comprising:
a pump delivering a slurry to a polishing pad; and
a rotation sensing device coupled to the pump sensing a rotation of the
pump and generating a signal indicative of the rotation of the pump.

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2. The system of Claim 1, further comprising a computer operable to
receive the signal from the rotation sensing device and to compare the signal to a
threshold signal in order to monitor the pump during use.

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3. The system of Claim 2, wherein the computer is further operable to
generate a message based on the comparison.

4. The system of Claim 1, further comprising a controller operable to
send a drive voltage to the pump based on a desired volumetric flow rate for the
slurry.

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5. The system of Claim 4, wherein the signal is a voltage and further
comprising a computer coupled to the rotation sensing device and the controller, the
computer operable to:

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receive the voltage from the rotation sensing device;

receive the drive voltage from the controller; and

compare the voltage to a threshold voltage that is based, in part, on the
drive voltage in order to monitor the pump during use.

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6. The system of Claim 1, wherein the pump comprises a peristaltic
pump.

7. The system of Claim 1, wherein the rotation sensing device comprises
a tachogenerator.

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8. The system of Claim 1, wherein the rotation sensing device comprises an encoder.

5 9. The system of Claim 1, wherein the rotation sensing device comprises a fiber optic detector.

10. The system of Claim 1, wherein the rotation sensing device comprises a digital counter.

11. A chemical mechanical polishing monitoring system, comprising:
a peristaltic pump operable to deliver a slurry to a polishing pad;
a controller operable to send a drive voltage to the peristaltic pump
based on a desired volumetric flow rate for the slurry;

5 a rotation sensing device coupled to a rotating shaft of the peristaltic
pump and operable to sense a rotation of the peristaltic pump, the rotation
sensing device further operable to generate a voltage indicative of the rotation
of the peristaltic pump; and

10 a computer coupled to the rotation sensing device and the controller,
the computer operable to:

receive the drive voltage from the controller;

receive the voltage from the rotation sensing device; and

15 compare the voltage to a threshold voltage that is based, in part,
on the drive voltage in order to monitor the peristaltic pump during
use.

12. The system of Claim 11, wherein the computer is further operable to
generate a message based on the comparison.

20 13. The system of Claim 11, wherein the rotation sensing device is
selected from the group consisting of a tachogenerator, an encoder, a fiber optic
detector, and a digital counter.

14. A chemical mechanical polishing monitoring method, comprising:
sending a drive voltage to a pump, the drive voltage based on a desired
volumetric flow rate for a slurry;
delivering, via the pump, the slurry to a polishing pad;
5 sensing a rotation of the pump;
generating a signal indicative of the rotation of the pump; and
comparing the signal to a threshold signal that is based, in part, on the
drive voltage in order to monitor the pump during use.

10 15. The method of Claim 14, further comprising generating a message
based on the comparison.

16. The method of Claim 14, wherein the pump comprises a peristaltic
pump.

15 17. The method of Claim 14, wherein sensing a rotation of the pump
comprises sensing a rotation of the pump via a tachogenerator.

18. The method of Claim 14, wherein sensing a rotation of the pump
20 comprises sensing a rotation of the pump via an encoder.

19. The method of Claim 14, wherein sensing a rotation of the pump
comprises sensing a rotation of the pump via a fiber optic detector.

25 20. The method of Claim 14, wherein sensing a rotation of the pump
comprises sensing a rotation of the pump via a digital counter.